Amendments to the Specification:

Please amend the paragraph beginning on page 2, line 12 as follows:

This invention provides a number of attributes not available in known optical immersion probes: 1) precise focus on any surface or material; 2) no need for sample alignment; 3) ease of sampling – simply place probe into or onto sample; 4) ability to be used in flowing/static sampling systems; 5) analysis not affected by directional flows or variable contact points; 6) analysis not affected by differential light scattering or particle distribution of solid particles; and 7) fully sealed probe element that is highly durable in harsh process/analytical environments. Thus, this invention circumvents the need for a multitude of imprecise complicated optical probes to measure samples ranging from gases to liquids to solids.

Please amend the paragraph beginning on page 3, line 22 as follows:

Figure 1 shows the theoretical optical path of a collimated optical beam through the spherical lens. For example, a focal length of about 200 μm from the apex of the spherical lens surface has been determined when a collimated 3 mm diameter 785 nm laser beam illuminates the surface of the spherical lens opposite the surface in contact with the sample. There is also no need for optical focusing of this probe onto/into the sample because the sample is optimally focused when it is in contact with the spherical lens. This makes the spherical lens optical immersion probe of this invention a focus free immersion probe with the only sampling condition being that the spherical lens itself must be in contact with the sample.

Please amend the paragraph beginning on page 7, line 21 as follows:

Figures 3A and 3 B illustrates a preferred embodiment of the optical immersion probe of this invention. Probe **200** comprises 4 components: spherical lens **240**, probe tip **210**, fastener **220** and probe tube **230**. Additional elements such as gaskets, o-rings, and other sealing means may be present to provide a leak proof system. In this embodiment, o-ring **213** is placed inside probe tip **210** such that it is seated around lens opening **218** on chamfered edge **216** at the proximal end of probe tip **210**. Lens **240** is also placed inside probe tip **210** such that it is seated on top of o-ring **213** and a portion of the lens extends through lens opening **218** and is external to probe tip **210**. Lens **240** is held in place, and a seal between the lens and the probe tip is formed, by fastener **220**. O-ring **223** is seated in probe tip **210** on top of lens **240**. Fastener **220** has fastener threads **224** on its exterior surface and has chamfered edge **226**, around which o-ring **223** is seated when fastener **220** is inserted into probe tip **210**. Threads **224** on fastener **220** are mated with tip threads **214** on the interior surface of probe tip **210**. Fastener **220** is threaded into probe tip **210** such that o-ring **223** is seated between lens **240** and chamfered edge **226** of fastener **220**. This applies pressure on lens **240** such that a seal is formed at lens opening **218**. Notch **225** is provided so that a screwdriver or other such device can be used to turn fastener **220** and provide greater force to the interfaces between the probe tip, o-rings, and spherical lens. The amount of force applied is a function of the type of o-ring material used as well as the experimental conditions, including pressure. This force would be readily determined by one skilled in the art. Furthermore, the chamfered edges as illustrated in Figures 2 and 3 are examples only. The pitch of the chamfered edges may be steeper or shallower, or the edge may be beveled, slanted, rounded, square.

Please amend the paragraph beginning on page 8, line 15 as follows:

Probe tube **230** is connected to the probe tip by mating threads **234** on threaded sleeve **232** with tip threads **214** located on the interior surface of probe tip ~~220~~**210**. This mating may provide additional force to the seal system. The interface between probe tip **210** and probe tube **230** may be welded or otherwise sealed using epoxies or other adhesives. Alternatively, an additional o-ring (not shown) may be provided between probe tube lip **237** and probe tip **210**.